



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,528	01/18/2002	Katsumichi Ueyanagi	FUJI:204	1652

7590 03/09/2004

ROSSI & ASSOCIATES  
P.O. Box 826  
Ashburn, VA 20146-0826

EXAMINER

OEN, WILLIAM L

ART UNIT PAPER NUMBER

2855

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/053,528	Applicant(s) UEYANAGI ET AL.	
	Examiner William L Oen	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchitani et al. (U.S. Patent No. 5,417,312) in view of Liang et al. (U.S. Patent No. 5,871,233)

Tsuchitani et al explicitly teaches all of the essential features of the instant claimed semiconductor physical quantity sensor including means for converting digital

Art Unit: 2855

data into analog data for digital trimming in response to a signal from a sensor circuit indicating that an analog quantity has been detected, wherein digital input/output electrodes (pads) that have undergone digital trimming in order to obtain a predetermined output; and wherein the electrodes (pads) that are pulled down to a ground inside a semiconductor chip and a ground electrode (pad) are electrically connected to a ground terminal outside said semiconductor chip.

It is noted that Tsuchitani et al does not explicitly teach that electrodes (pads) that have been pulled up to a power supply inside a semiconductor chip and a power supply pad are electrically connected to a power supply terminal outside said semiconductor chip. Liang et al, in the same field of endeavor as Tsuchitani et al (insofar as both are directed to *semiconductor physical quantity sensor*) teaches a MOSFET chip wherein electrodes (pads) that have been pulled up to a power supply inside a semiconductor chip and a power supply electrode (pad) are electrically connected to a power supply terminal outside said semiconductor chip. In view of this teaching by Liang et al, and because it would have been simple and expedient to have done so, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the semiconductor physical quantity sensor of Tsuchitani et al such that electrodes (pads) that have been pulled up to a power supply inside a semiconductor chip and a power supply electrode (pad) are electrically connected to a power supply terminal outside said semiconductor chip, if desired.

It is noted that Tsuchitani et al not only discloses a semiconductor physical quantity sensor, but also explicitly teaches a semiconductor acceleration sensor.

Because strain gauge sensors are notoriously well-known and widely used, it is considered to have been a mere matter of obvious design choice clearly within the purview of one skilled in the art to have formed the semiconductor acceleration sensor of Tsuchitani et al, as modified by Liang et al, as a strain gauge type sensor, if desired.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited on the attached PTO form 892 are cited for their respective disclosures of physical sensor

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L Oen whose telephone number is 571-272-2186. The examiner can normally be reached on 10:30 am - 9:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2855

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William L Oen  
Primary Examiner  
Art Unit 2855

WL Oen  
25 February 2004